

GRASSES OF THE MELBOURNE DISTRICT.

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The purpose of this paper is to give those with little or no knowledge of grasses, such an understanding of the structure, together with the figures and keys, as will enable them to obtain some idea of our native grasses. I trust that the grasses may become better known, and their economic worth and beauty more appreciated.

Grasses are herbs with round or flattened (Fig. A.4), usually hollow stems or culms (never three-sided), solid at the joints or nodes (A.5), and two ranked, alternate, parallel-veined leaves, composed of two parts, the sheath and blade (Fig. A.6). At the junction of the sheath and blade, on the inside, is a small membrane, known as the ligule (A.2); this may take the form of a ring of hairs, or, sometimes, a transparent appendage of varying shape.

The spikelet, or inflorescence, consists of glumes and florets. The flowers generally are small, bi-sexual, naked, in the axil of a concave bract called the flowering glume (Fig. V.). A palea (B) envelops the flower, which consists of a one-celled, one ovuled ovary, two feathery stigmas (B), two and three stamens, with versatile anthers (B.1). Thus grasses have no proper floral envelope, or perianth. The spikelet is the unit of the inflorescence (V), and the floret is the unit of the spikelet (V.). The floret is never more than one-flowered, with one lemma and one palea (Fig. B.). The glumes and florets are always alternate (two consecutive ones never being borne above one another).

Many members of the Cyperaceae resemble the family Gramineae, but differ in having solid stems, without nodes, leaf-sheath not split, and having the flower supported by a single bract. The stems are often three-sided (A.3), whilst grass stems are never three-sided (Fig. 4).

GRAMINEAE.

Imperata cylindrica, Beauv. "Blady Grass." Fig C.

This cosmopolitan native grass has a large, silky-white head. The spikelets are in pairs, one being sessile, the other pedicellate. It has thick perennial rootstock, and is useful for binding sand and river banks.

Rottboellia compressa, L. "Mat-Grass." (*Hemarthria compressa*). Fig. W.

A decumbent, or creeping grass, sometimes rigid and ascending to two feet in height. Found on the margins of lakes, ditches, salt-marshes. Spikelets in pairs, one sessile, the other pedicellate; glabrous. Differs from *Lepyturus cylindricus* (Fig. O.), which it resembles in having the spikelets solitary, terminal compressed, while *L. cylindricus* has the spikelets solitary and alternate, the nerves of the outer glume more prominent, the stem more cylindrical.

Themeda triandra, Forst. "Kangaroo-Grass." (From "Themeda," the Arabic name.)

Perhaps the best known of our native grasses. It is much appreciated by stock; so much so, that in old pastures, it has become extinct. The plant produces little fertile seed. See Fig. U.

Zoysia pungens, Willd. "Prickly Couch-Grass." (*Osterdamia*.)

A perennial low grass, with creeping rhizomes, short, pungently pointed blades, and terminal spike-like racemes, the spikelets on short appressed pedicels. Spikelets one-flowered, laterally compressed, appressed flatwise.

Paspalum distichum, L. "Silt-Grass." Fig. E.

A grass with creeping stolons, and racemes in pairs at the summit of the culms. Grows in moist places. See Fig. E.

PANICUM.

Spikelets more or less compressed dorsiventrally, arranged in open or compact panicles. Spikelets with back of fruit placed towards the rachis.

P. crus-galli, L. "Barnyard-Grass." (Fig. F.2.)

A cosmopolitan native grass of annual habit. Spikelets closely attached to the branches of the panicle, in two or four rows on one side of the stem. Spikelet sometimes turns from green to purple.

P. decompositum, R.Br. "Umbrella-Grass."

A quick-growing summer grass, with long divided panicle branches, somewhat like Fig. M. in habit, but spikelet like Fig. F.1, with the lowest glume truncate, barely one-third the length of the spikelet, three-nerved.

P. prolatum, F. v. M. "Pallied Panic Grass."

A rigid, glabrous perennial, somewhat like Fig. 4, but the spikelet as in Fig. 1, with the lowest glume half as long as spikelet. Grows in damp places.

P. sanguinale, L. "Summer-Grass."



A cosmopolitan native grass, with panicle branches simple, spike-like—somewhat resembling a hand. Plentiful in gardens during the summer months, and is often known to gardeners as Yan Yean Grass, as it appears about the time when gardens need watering. Fig. F. and F.1.

Oplismenus compositus, Beauv. "Creeping Beard-Grass." Glumes four, outer glume with a long awn. Closely allied to *Panicum*.

A weak grass, very hairy, stems creeping, sometimes ascending to 1 ft. high.

SETARIA (Fig. H.).

(Latin, seta, a bristle.)

S. glauca, L. "Pale Pigeon-Grass." Spikes rather short and dense, flowering glume strongly rugose or marked. See Fig. H.1.

S. viridis, Beauv. "Green Pigeon-Grass," Similar to above, but with a smooth flowering glume.

S. macrostachya, H.B. and K. "Bearded Pigeon-Grass." Spikes longer than in the two above species, seemingly whorled, teeth of bristles erect. Fig. H.1 (part).

S. verticillata, Beauv. "Whorled Pigeon-Grass." Similar to above, but with whorled teeth on bristles, subtending the spikelet.

Spinifex hirsutus, Lab. "Hairy Spinifex."

Leaves long and silvery. Flower heads, male and female on separate plants. The male head spike-like, the female or fertile head semi-globular, 3 inches or more across, somewhat like a giant "Kangaroo-Grass." Fig. U., but very silky.

A large, hairy grass, with perennial creeping stem. In sand along the coast.

Microlaena stipoides, R.Br. "Weeping-Grass." (Mikros, Greek, small; alina, a cloak), in reference to the two small outer glumes.)

A perennial grass with weeping habit, 1 to 2 feet in height. Spikelet one-flowered, first and second glumes minute, unequal, persistent. Fig. T.

TETRARRHENA.

T. juncea, R.Br. "Wire-Grass."

A scrambling grass that climbs over bushes to a height of 8 feet to 12 feet. Common in Dandenong Ranges, etc.

Glumes, 6; third glume nearly as long as fourth and fifth; outer glumes obtuse, unequal.

T. distichophylla, R.Br. "Hairy Rice-Grass."

Stems arising from a creeping base to 1 ft.; rigid but slender.

T. acuminata. "Pointed Rice-Grass." Stems long and slender. Leaves long and broader than "Hairy Rice-Grass." Spike 1 to 1½ inches long. Large glumes acutely acuminate.

STIPA, L. Fig. J.

(From Greek, *stypē*, tow, alluding to the fibre.)

S. flavescens, Labill. "Pale Spear-Grass." Ligule ciliate, outer glumes straw coloured, acute under ½ inch long, 1½ to 3 feet high glabrous, the lower leaves slightly hairy. Awn 2 inches long.

S. Muelleri, Tate. "Wiry Spear-Grass."

Spikelets in a short racemes, ligule long, glabrous. Leaves few, almost absent. Awn minutely pubescent, 2 to 2½ inches long.

S. pubescens, R.Br. "Tall Spear-Grass."

A variable grass, with either glabrous (var. *semiglabra*, Reeder.) or pubescent leaves. Grows to a height of 3 feet or more, but varies. Panicle loose, outer glumes of spikelet green and purplish; awn 1½ to 2 inches long, slender, with two bends.

S. setacea, R.Br. "Corkscrew-Grass." Flowering glume silky-hairy, nodes minutely pubescent, awn slender, 2 inches long, twisted. Sheath bearded.

S. semibarbata, R.Br. "Fibrous Spear-Grass." Awn stout, hairy, half way up.

S. scabra, Lindl. "Rough Spear-Grass." 1 to 2 feet high, leaves short, panicle loose, 6 inches to 1 foot long, with long spreading glabrous branches. Distinguished from the former by short fine ligule. from *pubescens* by the more slender habit.

S. teretifolia, Steud. "Coast Spear-Grass."

Alopecurus geniculatus, L. "Marsh Foxtail." (Alopex, a fox, oura, a tail, Greek.)

A cosmopolitan native grass, which grows in wet ground. Fig. I.

SPOROBOLUS, R.Br.

(Sporos, a seed, bolos, throwing.)

S. indicus, R.Br. "Rat-Tail-Grass."

A tussocky fibrous grass, 1½ to 2½ feet. Fig. L.

S. virginicus, Kunth. "Coast Rat-Tail-Grass." Spike-

let one-flowered, as in former, but differs in having the second glume shorter than flowering glume. Panicle spike-like, lead-coloured, $\frac{3}{4}$ to $2\frac{1}{2}$ inches long.

AGROSTIS, L.

A. scabra, Willd. "Rough Bent-Grass." Panicle spreading, spikelet-like, Fig. M.1, but with no awn. 6 inches to 1 foot high. Outer glume rather acute.

A. venusta, Trin. "Graceful Bent-Grass." Outer glume very acute, one line long—the former is $\frac{3}{4}$ line long, with larger leaves.

CALAMAGROSTIS.

Differs from *Agrostis* in the presence of a conspicuous tuft of hairs at the base of the flowering glume, together with a bristle arising from the back of the palea. (Fig. M.1.)

C. filiformis, Pilger. "Blown Grass." Fig. M. and M.1. Panicle loose.

A tumble-grass, which is blown or rolled along by the wind.

C. quadriseta, Spr. "Reed Bent-Grass." Panicle not loose, but spike-like; awn almost basal.

C. minor, J.M.B. "Smaller Bent-Grass." Bristle absent.

DICHELACHNE.

D. crinita, Hk.f. "Long-Hair Plume-Grass," and *D. sciurea*, Hk.f. "Short-Hair Plume-Grass." Perennial grasses resembling *Stipa* in habit. In *Stipa* the awn is terminal, in *Dichelachne* the awn is dorsal near the summit of the glume. *D. sciurea* differs from *D. crinita* in having a shorter and less conspicuous awn.

Amphibromus nervosus, Hk.f. "Swamp Wallaby-Grass." See Fig. G.

DANTHONIA.

(Danthoine, French botanist.)

Spikelets, several flowered, with a hairy callus at base. Outer glumes, two. Very variable perennial grasses.

D. penicillata, F. v. M. "Wallaby-Grass." 5 inches to 4 feet high, awn or flower much longer than lobes, Fig. K.1.

Numerous varieties. Needs revision.

D. carphoides, F. v. M. "Short Bandicoot-Grass."

A short grass, differing from the former in size, and having the lobes and awn of equal length, or nearly so.

Phragmites communis, Trin. "Common Reed."

A large bamboo-like grass that grows along creeks.

swamps, etc. 5 to 6 feet; leaves 1 inch broad. The large inflorescence silvery.

Diplachne loliiformis, F. v. M. "Rye Beetle-Grass." Fig. N.

Eragrostis Brownii. "Common Love-Grass." D.1.

Spikelets several-flowered, lead coloured, glumes nerved, panicle loose or spreading, leaves narrow, bearded behind the ligule. Fig. D. is a composite of the genus.

Distichlis spicata, Greene. "Salt-Grass." Seaside. Fig. 1.

Poa caespitosa, Forst. "Tussock-Grass." Fig. S.

A tall, variable perennial grass, growing in tussocks. Spikelet Fig. S., and habit of inflorescence S.1.

GLYCERIA.

Differs from *Poa* in having flowering glumes round on back, the lateral nerves straight and not converging on the central nerve, and branched stigma hairs.

G. dives. "Giant Mountain-Grass." A stout, erect glabrous grass, attaining a height of 5 to 12 feet. Leaves flat and long. Panicle loose and spreading, 6 inches to 1 foot long.

Wet, shaded gullies of Victoria.

FESTUCA. Fig. V. and V.1.

Spikelets several-flowered, paniculate, glumes generally acute or tapering into an awn.

F. duriuscula, L. "Hard or Sheep's-Fescue."

A perennial, with short thin leaves, mostly basal, much shorter than stems. Flowering glume faintly five-nerved, tapering to an awn about half its length.

F. littoralis, Labill. "Coast-Fescue."

A perennial with rigid leaves as long as stems, leaves cylindrical, as also has the former. See Fig. V.

LEPTURUS. (Fig. O.)

(Leptos, slender, oura, tail, Greek.)

L. incurvatus, Trin. "Coast Barb-Grass." Spikes cylindrical, curved, outer glumes two. Fig. O.1.

L. cylindricus, Trin. "Common Barb-Grass." Similar to above, but spikes thicker and usually straight, and has but one outer glume. Fig. O. and O.2.

Agropyrum scabrum, L. "Common Wheat-Grass." (Agros, a field, pyros, wheat.)

A very variable perennial plant, 1 to 4 feet high, leaves scabrous on the edges. Spikelets distant 6 to 12 flowered, flowering glumes narrow, rigid. See Fig. R.